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The International Fellowship Program in Microsurgery at Uppsala University Hospital

A Paragon Throughout Europe

Holger Jan Klein, MD

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Key Words: microsurgery, fellowship, plastic surgery training, Akademiska Sjukhuset, Uppsala

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Personal reports with valuable information on plastic surgery fellowships from all over the world are about to accumulate in recent years. Whereas some institutions have rightly become widely renowned for their excellent microsurgery fellow training in Taiwan, Canada, United States, and Australia, less is known about European fellowships focusing on reconstructive microsurgery.^{1–5} As former fellow at the Department of Plastic and Maxillofacial Surgery at Uppsala University Hospital, Sweden, the author hereby presents a survey on a unique and exemplary 6-month microsurgical fellowship offering hands-on training, academic education, and not least personal development to ambitious candidates who pursue a career in reconstructive microsurgery.

FELLOWSHIP AT A GLANCE

The international fellowship program in microsurgery at Uppsala University Hospital (Akademiska Sjukhuset) was founded in 2013. Since then, 10 half-year fellows from all over the world have embellished their plastic surgery training in reconstructive microsurgery with reverberating feedback. The unit is one of the most active in reconstructive microsurgery in northern Europe with a yearly case load of about 130 free flaps and up to 70 nonmicrovascular cases performed by 3 microsurgeons in the fields of head and neck reconstruction, breast reconstruction, facial palsy, lower extremity reconstruction, and complex wound care. The superior aim of the program is to endow the fellow's armamentarium with state-of-the-art reconstructive strategies, skills, and concepts. As integrative part of the "microteam," the fellow participates in preoperative planning, execution of procedures, and postoperative care. Accompanying

copious research opportunities underline the academic character of the fellowship and might boost the fellow's scientific career. The fellowship program is endorsed by the Swedish Society for Reconstructive Microsurgery, and accommodation and a grant for covering basic living expenses are provided (Table 1).

SITE-SPECIFIC INFORMATION

The Uppsala University Hospital is located in the center of Uppsala, a charming international city with about 150,000 inhabitants. Uppsala lies about 60 km north of Sweden's capital Stockholm, the destination where most fellows take their flights to (Arlanda Airport). Comfortable trains and busses travel frequently between Arlanda airport and Uppsala. Akademiska Sjukhuset is Sweden's oldest university hospital with the first department established as early as 1708.⁶ Its long-standing tradition comprises several Nobel Prize winners and makes it nowadays one of Sweden's largest hospitals. As a full-scale university hospital with 8000 employees and 1000 beds, more than 700,000 patients are yearly cared for. The Department of Plastic and Maxillofacial Surgery at Akademiska Sjukhuset was founded in 1951 by Professor Tord Skoog.⁷ Since then, numerous reputable surgeons have trained in or visited the department, for example, Sir Harold Gillies as the father of plastic surgery, of whom a self-drawn canvas can be found in the operation area. Today, the unit encompasses 4 major clinical areas: reconstructive microsurgery, craniofacial surgery, burn care, and general plastic surgery. Accordingly, the department covers a large area of the expanding field of plastic surgery, offering the fellow insights into highly advanced subspecialties beyond reconstructive microsurgery.

APPLICATION AND SELECTION PROCESS

Candidates may apply 1 year in advance (deadline, April 1st of each year) for 2 fellow positions, stating their preferable 6-month period either from March to August or September to February. The program has meanwhile gained tremendous attention under postgraduate trainees from all over the world adding up to numbers of 70 applicants per year, thus making it a highly competitive selection process. Applicants should be certified plastic surgeons originating from a recognized center where they can transfer their achieved knowledge and skills to after completion of the fellowship. Application documents must include a curriculum vitae, 2 letters of recommendation, and advisably a short cover letter, all sent to the program director Dr Andrés Rodríguez (e-mail: andres.rodriguez.lorenzo@akademiska.se).

The comprehensive selection process involves a committee reviewing the applicants and rating them according to their experience, recommendation letters, expectations, and future plans as well as their academic and research background and interest. This selection process is largely in line with surveyed opinions on plastic surgery candidate selection.^{8,9} The short-listed candidates (about 10–20) are contacted for personal interviews (preferably via Skype), and successful candidates are subsequently notified.

TEACHING PHILOSOPHY AND TRAINING PROGRAM

As one of Professor Fu-Chan Wei's former fellows, the fellowship director has managed to transfer major aspects of the training philosophy

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From the Department of Plastic and Maxillofacial Surgery, Akademiska Sjukhuset, Uppsala University, Uppsala, Sweden; and Division of Plastic Surgery and Hand Surgery, University Hospital Zurich, Zurich, Switzerland.

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Reprints: Holger Jan Klein, MD, Division of Plastic Surgery and Hand Surgery, University Hospital Zurich, Zurich, Switzerland. E-mail: klein.holger@gmail.com.

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TABLE 1. Fellowship at a Glance

Fellowship title	The International Fellowship Program in Microsurgery at Uppsala University Hospital
Fellowship director and e-mail contact	Dr Andrés Rodríguez andres.rodriguez.lorenzo@akademiska.se
Location	Department of Plastic and Maxillofacial Surgery at Uppsala University Hospital Sweden (Akademiska Sjukhuset)
Day time duties	7.45 AM to 5.00 PM (variable)
Length of the fellowship	6 months (start in March or September)
Accepted fellows per year	2
Salary	US \$1000
Accommodation	Provided (nearby spacious apartment)
On calls/weekend duties	None
Requirements	Certified plastic surgeon
Average no. applicants per year	70
Application documents	CV, cover letter, 2 letters of recommendation
Application deadline	April 1 to apply for following year
Selection process	Application, Skype interview
No. performed free flaps per year	130
No. performed nonmicrovascular procedures per year	70
What was particularly good?	One-to-one teaching and training, variety of (free flap) procedures
What could be improved in the future?	Establishing regular gatherings for fellows, expats, guest doctors etc at Akademiska to get in touch with each other
CV, curriculum vitae.	

from Chang Gung Memorial Hospital to Uppsala. This includes a well-structured concept making the fellow an integrated part of the microteam. The fact and feeling of being needed as a fellow in a benevolent team clearly distinguish this fellowship from conventional “observerships,” as they might be found elsewhere.

The fellow works in a team of 4 specialists plus 1 resident and participates in the preoperative planning, execution of procedures, and postoperative care. Preoperative planning includes attending interdisciplinary boards, understanding the patient's history and current indication for operation, discussing the scheduled procedure with treatment alternatives, reviewing images, and not least marking the patient. There are 3 to 5 major microsurgical cases per week, and the fellow is clearly assigned to 1 operation theater each day. The case load comprises approximately 35% breast reconstruction (mainly using deep inferior epigastric perforator flaps), 30% head and neck reconstruction, 15% facial palsy procedures, 10% lower/upper extremity reconstruction, and 10% miscellaneous reconstructive procedures. The fellow is informed about the surgical steps to perform in advance. The hands-on part follows a comprehensible step-by-step concept, from initial observing via executing easier tasks (eg, donor site closure) to more advanced actions and responsibilities (eg, vessel preparation, flap raising, venous/arterial anastomosis).¹⁰ One or more present consultants guarantee compassionate backup when struggling, and an open dialogue on specific steps or strategies is always more than welcome. The major purpose of this teaching philosophy is to repetitively expose the fellow to equal/similar surgical steps with the aim to master the common workhorse flaps at the end of the fellowship by himself or herself. Between procedures or on days with less surgery going on in the microteam, the fellow is always welcome to take a glimpse at next-door procedures (eg, craniofacial surgery, ear-nose-throat procedures). Likewise, the fellow is encouraged to practice microsurgical techniques and skills in the “microlab,” which is equipped with 2 microscopes and quality microsurgical instruments (chicken wings can be bought at the nearby supermarket).

Postoperative care includes doctors' rounds every morning and follow-up of patients' convalescence in the outpatient clinic. If the fellow is not needed in the operating room, he or she is appreciated to follow the 2 senior microsurgeons (Dr Rodríguez and Dr Mani) in their facial palsy, breast reconstruction, lymphedema, and head and neck outpatient clinics. The fellow has neither on-calls nor night or weekend shifts.

RESEARCH AND ACADEMIA

Regular scientific meetings are held several times a week encompassing journal clubs, case presentations, and discussion of research plans and results. Fellows are frequently asked to contribute with short case demonstrations or paper presentations. To further underline the academic character of the program, at least 1 research project is to be finished within the 6-month term culminating in a publication in a respected plastic surgery journal. Regular visits from renowned professors and former fellows as well as international plastic surgeons and surgeons from other specialties not only enrich the broad academic framework but also enable the fellow to establish valuable connections.

VISITING PROFESSORS

Since 2018, the department has officially integrated visiting professorships inviting world leading figures to Uppsala University Hospital, where they are given the opportunity to hold lectures and exchange state-of-the-art knowledge with senior surgeons, fellows, and residents.

ACCOMMODATION AND STIPEND

The fellowship program is supported by a grant provided by the department of plastic surgery at Uppsala University Hospital including a well-located spacious apartment as well as a useful compensation for living expenses of about US \$1000 per month. Because living expenses are supposed to be fairly high in Sweden, acquisition of additional financial support from the fellow's home institution is advisable.

CONCLUSIONS

The international fellowship program in microsurgery at Uppsala University Hospital has rightly caught remarkable attention in recent years. The combination of a structured hands-on training program under supervision of internationally respected microsurgeons in a well-equipped caring work environment and not least the fact of Sweden being a stunning country with open-minded easy-going people clearly meets the requirements of a high-quality fellowship for ambitious plastic surgery trainees and therefore deserves the designation “paragon throughout Europe” by far.

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